

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Jain et al.

Group Art Unit: Unassigned

Application No. Unassigned

Examiner: Unassigned

Filed: October 7, 2003

For: MODEL AND METHOD FOR
COMPUTING PERFORMANCE
BOUNDS IN MULTI-HOP
WIRELESS NETWORKS

Certificate of Mailing Under 37 CFR 1.10

I hereby certify that this INFORMATION DISCLOSURE STATEMENT and all accompanying documents are being deposited with the United States Postal Service "Express Mail Post Office To Addressee" Service under 37 CFR 1.10, Express Mail No. EV 329735602 US, on the date indicated below and is addressed to: Mail Stop Patent Application, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

Date

Oct. 7, 2003 *Margaret Smith*

INFORMATION DISCLOSURE STATEMENT

Mail Stop PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Pursuant to 37 CFR 1.97 and 1.98, the references listed on the enclosed Form PTO-1449 and/or Substitute Form PTO-1449 ("Form 1449") are submitted for consideration by the Examiner in the examination of the above-identified patent application.

The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form 1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form 1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above-identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so.

Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved.

The Information Disclosure Statement is being filed:

- ☒ **within** any one of the following time periods: (a) within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d); (b) within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 of an international application; (c) before the mailing date of a first Office Action on the merits; or (d) before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.
- ☐ **after** (a), (b), (c) or (d) above, but before the mailing date of a final action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and includes *one* of:
- ☐ the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below).
- or*
- ☐ the fee of \$180 set forth in 37 CFR 1.17(p) (see "Fees" below).
- ☐ **after** the mailing date of a final action under 37 CFR 1.113 or a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and on or before payment of the issue fee, and includes the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).
- ☐ **after** the mailing date of a Notice of Allowance under 37 CFR 1.311, and on or before payment of the issue fee, and **within** thirty days of receiving each item of information contained in the Information Disclosure Statement, and includes the Statement under 37 CFR 1.704(d) (see "Statement under 37 CFR 1.704(d)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).

NOTE: This is for original applications except applications for a design patent, filed on or after May 29, 2000, wherein a paper containing only an Information Disclosure Statement in compliance with 37 CFR 1.97 and 1.98 is being filed.

Copies of the References

- ☒ Copies of the references listed on the enclosed Form 1449 are enclosed herewith. Attached to each reference not in the English language is a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3). An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3).
- ☐ A copy of the foreign search report is enclosed herewith.

- ☐ The references listed on the enclosed Form 1449 were previously identified in the parent application(s) of the present application, and copies of the references were furnished at that time. Accordingly, additional copies of the references are not submitted herewith, so as not to burden the file with duplicate copies of references. The Examiner is respectfully requested to carefully review the references in accordance with the requirements set out in the Manual of Patent Examining Procedure. In accordance with 37 CFR 1.98(d), the details of the parent application(s) relied upon for an earlier filing date under 35 USC 120 in which copies of the references were previously furnished are set out below:

U.S. APPLICATIONS		Status (check one)		
U.S. APPLICATIONS	U.S. FILING DATE	PATENTED	PENDING	ABANDONED
1.				
2.				
3.				

Statement under 37 CFR 1.97(e)

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign patent application not more than three months prior to the filing of the Information Disclosure Statement.
- ☐ The **undersigned** hereby states that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the Information Disclosure Statement.

Statement under 37 CFR 1.704(d)

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

Fees

- ☒ No fee is owed by the applicant(s).
- ☐ The **IDS Fee of \$180** under 37 CFR 1.17(p) is enclosed herewith.

Method of Payment of Fees

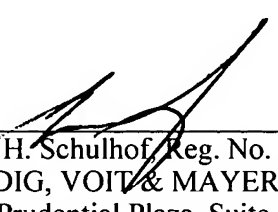
- ☐ Attached is a check in the amount of \$.
☐ Charge Deposit Account No. 12-1216 in the amount of \$. (A duplicate copy of this communication is enclosed for that purpose.)

Authorization to Charge Additional Fees

- ☒ If any additional fees are owed in connection with this communication, please charge Deposit Account No. 12-1216. (A duplicate copy of this communication is enclosed for that purpose.)


Instructions as to Overpayment

- ☒ Credit Account No. 12-1216.
☐ Refund




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Date: October 7, 2003

Please type a plus sign (+) inside this box → 

Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	Unassigned
		Filing Date	October 7, 2003
		First Named Inventor	Jain
		Group Art Unit	Unassigned
		Examiner Name	Unassigned
Sheet 1 of 2	Attorney Docket Number	221661	

OTHER - NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Translation	
			Yes	No**
	AA	Bay area wireless users group, http://www.bawug.org		
	AB	lp_solve: linear programming code., ftp://ftp.ics.ele.tue.nl/pub/lp_solve/		
	AC	Linear Programming. W. H. Freeman and Company, 1983. [Book]		
	AD	DE COUTO et al., <i>Performance of Multihop Wireless Networks: Shortest Path is Not Enough</i> . MIT Laboratory for Computer Science, 1st Workshop on Hot Topics in Networks (Oct. 2002), http://www.pdos.lcs.mit.edu/papers/grid:hotnets02/paper.pdf		
	AE	Ilog cplex suite, 2003, http://www.ilog.com/products/cplex/ .		
	AF	ESTRIN et al., <i>Next Century Challenges: Scalable Coordination In Sensor Networks</i> , ACM MOBICOM (Aug. 1999). http://citeseer.nj.nec.com/estrin99next.html		
	AG	GAREY, et al., <i>Computers and Intractability: A guide to the theory of {NP} completeness</i> . W. H. Freeman and Company, (1979) [book]		
	AH	GASTPAR et al., <i>On The Capacity Of Wireless Networks: The Relay Case</i> , IEEE INFOCOM (Jun. 2002). http://www.ieee-infocom.org/2002/papers/489.pdf		
	AI	GROSSGLAUSER et al., <i>Mobility Increases The Capacity Of Ad-Hoc Wireless Networks</i> , IEEE INFOCOM (Apr. 2001), http://citeseer.nj.nec.com/532243.html		
	AJ	GUPTA et al., <i>The Capacity Of Wireless Networks</i> , IEEE Transactions on Information Theory 46, 2 (Mar. 2000). http://citeseer.nj.nec.com/gupta99capacity.html		
	AK	JOHNSON et al., <i>Dynamic Source Routing In Ad-Hoc Wireless Networks</i> , Mobile Computing (1996), IMIELINSKI et al., Eds., Kluwer Academic Publishers. http://citeseer.nj.nec.com/johnson96dynamic.html		
	AL	KODIALAM et al., <i>Characterizing Achievable Rates In Multi-Hop Wireless Networks: The Joint Routing And Scheduling Problem</i> , ACM MOBICOM (Sep. 2003).		

Please type a plus sign (+) inside this box → 

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		Application Number	Unassigned		
		Filing Date	October 7, 2003		
		First Named Inventor	Jain		
		Group Art Unit	Unassigned		
		Examiner Name	Unassigned		
Sheet	2	of	2	Attorney Docket Number	221661

	A M	LI et al., <i>Capacity Of Ad Hoc Wireless Networks</i> , ACM MOBICOM, (Jul. 2001). http://citeseer.nj.nec.com/li01capacity.html		
	A N	<i>Matlab version 6.1</i> . http://www.matlab.com/ .		
	A O	NANDAGOPAL et al., <i>Achieving MAC Layer Fairness In Wireless Packet Networks</i> , ACM MOBICOM, (Aug. 2000). http://citeseer.nj.nec.com/nandagopal00achieving.html		
	A P	<i>The Network Simulator - ns-2</i> , (1995) http://www-mash.cs.berkeley.edu/ns/ .		
	A Q	PARK et al., <i>A Highly Adaptive Distributed Routing Algorithm For Mobile Wireless Networks</i> , Proc. of IEEE INFOCOM'97, (Apr. 1997) http://citeseer.nj.nec.com/park97highly.html		
	A R	PERKINS et al., <i>Highly Dynamic Destination-Sequenced Distance Vector Routing (DSDV) For Mobile Computers</i> , Proc. of ACM SIGCOMM'94, (Sep. 1994). http://citeseer.nj.nec.com/perkins94highly.html		
	A S	PERKINS et al., <i>Ad-Hoc On-Demand Distance Vector Routing</i> , Proc. of IEEE WMCSA'99 (Feb. 1999). http://citeseer.nj.nec.com/549597.html		
	A T	<i>Seattle wireless</i> , http://www.seattlewireless.net/ .		
	A U	YANG, et al., <i>Priority Scheduling In Wireless Ad Hoc Networks</i> , In ACM MobiHoc, (June 2002)		

Examiner Signature		Date Considered	
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* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).
 + An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).